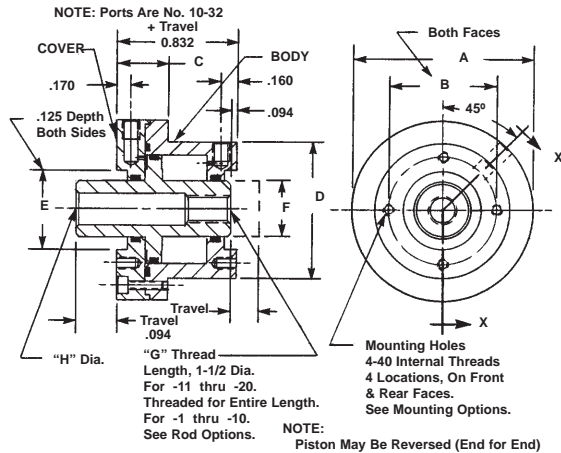


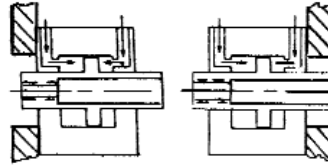
SHORT STROKE PNEUMATIC CYLINDERS - LO-PROFILE® SERIES A1-SP-FM

Double Acting-Double Ended Pistons with Internal Threads-Side Ported-Either Face Mounted



SPECIFICATIONS:
SERVICE, PLANT AIR
M.O.P., 300 PSI
TEMPERATURE, -40°F to +250°F

MATERIALS:
BODY & COVER, ALUMINUM ALLOY
PISTON, ALUMINUM ALLOY
SEALS, BUNA "N" O RINGS
FASTENERS, ALLOY STEEL



Pictorial

NOTES:

Dimensions are nominal in U.S. CUSTOMARY specifications.

METRIC CYLINDERS are dimensionally equivalent with clearance holes, counterbores, threads & fasteners to metric specifications. See inside back cover for fastener conversion table. There is no added cost for METRIC CYLINDERS.

An air/oil mist unit is recommended for internal lubrication. Where such units are not practical, SERVICE KITS including seals & factory approved lube are available.

Cylinders may also be used in low pressure hydraulic and vacuum service.

Wrench flats may not be necessary if cylinders can be pressurized in the retracted or extended position while tightening the rod joint.

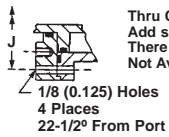
Inquiries regarding modifications to BASIC CYLINDERS are always welcome.

BASIC PART No.	O.D. A	BOLT CIRCLE B	FLANGE LENGTH C	BOSS DIA. D	BOTH RECESS DIA. E	ROD DIA. F	THD. G	HOLE H	BOLT CIRCLE J	WR. FLATS K	PISTON DIA. (IN.) I	PISTON AREA (SQ. IN.) L
1031(-)	1.000	0.688	See note1	1.000	0.375	0.250	4-40	0.129	See Note 2	0.188	0.450	0.110
1032(-)	1.500	0.750	0.563	1.000	0.500	0.375	10-32	0.206	1.250	0.281	0.700	0.275
1033(-)	2.000	1.188	0.563	1.500	0.875	0.625	5/16-24	0.344	1.750	0.500	1.200	0.824
1034(-)	2.500	1.688	0.563	2.000	1.375	0.625	5/16-24	0.344	2.250	0.500	1.700	1.963

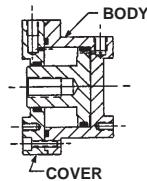
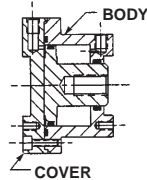
NOTE 1
C= 0.832 + Travel (A=D)

NOTE 2
Not available on Model 1031(-)

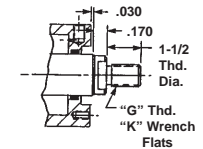
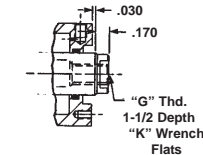
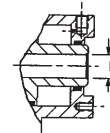
OPTIONAL MOUNTING STYLE



OPTIONAL CONFIGURATIONS



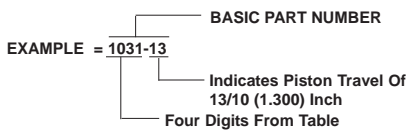
ROD END OPTIONS



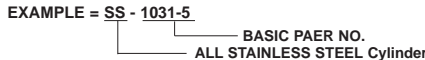
NOTES- Optional piston rod ends extend from the BODY SIDE and apply to one end only unless otherwise specified. However, pistons may be reversed. (End for End) If required, add a suffix -R to the BASIC PART NUMBER. There is no added cost. Piston rods have no internal machining on option -ETW.

HOW TO ORDER BASIC CYLINDERS

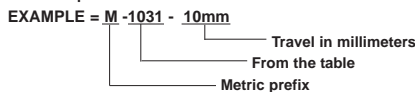
A BASIC PART NUMBER consists of a four digit number followed by a dash number to indicate piston travel in increments of 1/10 (0.100) Inch. Travel to -20 (2.000) inches is standard. Consult Factory for longer travel.



HOW TO ORDER ALL STAINLESS STEEL CYLINDERS
Add the letter -SS as a prefix to the BASIC PART NO.
Add 40% to the BASE PRICE.



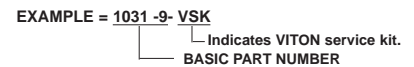
HOW TO ORDER METRIC CYLINDERS
A BASIC PART NO. FOR METRIC CYLINDERS consists of a four digit number from the table with a prefix "M" and a suffix to indicate travel in millimeters. See inside rear cover for piston travel conversions.



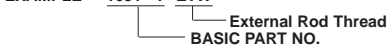
HOW TO ORDER BUNA "N" SERVICE KITS
Specify the BASIC PART NO. followed by suffix -SK.



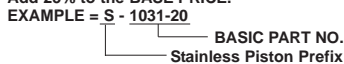
HOW TO ORDER VITON SERVICE KITS
Specify the BASIC PART NO. followed by the suffix -VSK



HOW TO ORDER CYLINDERS WITH OPTIONS
Add options to the BASIC PART NO. as suffixes in any order.



HOW TO ORDER CYLINDERS WITH STAINLESS STEEL PISTONS
Add the letter -S as a prefix to the BASIC PART NO.
Add 25% to the BASE PRICE.



HOW TO ORDER CYLINDERS WITH VITON SEALS
Add suffix -V to the BASIC PART NO.
Add 10% to the BASE PRICE

